

The Light company

Houston Lighting & Power South Texas Project Electric Generating Station P. O. Box 289 Wadsworth, Texas 77483

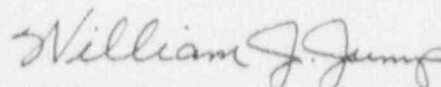
May 2, 1991
ST-HL-AE-3763
File No.: G26
10CFR50.73

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

South Texas Project Electric Generating Station
Unit 1
Docket No. STN 50-498
Licensee Event Report 91-010
Regarding Manual Engineered Safety
Features Actuation Due to a Toxic Gas Alarm

Pursuant to 10CFR50.73, Houston Lighting & Power Company (HL&P) submits the attached Licensee Event Report (LER 91-010) regarding a manual Engineered Safety Features actuation due to a toxic gas alarm. This event did not have any adverse impact on the health and safety of the public.

If you should have any questions on this matter, please contact Mr. C. A. Ayala at (512) 972-8628 or me at (512) 972-7205.



William J. Jump
Manager,
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KT/amp

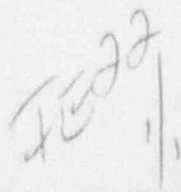
Attachment: LER 91-010 (South Texas, Unit 1)

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A Subsidiary of Houston Industries Incorporated

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Houston Lighting & Power Company
South Texas Project Electric Generating Station

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Revised 01/29/91

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) South Texas, Unit 1										DOCKET NUMBER (2) 0 5 0 0 0 4 9 8				PAGE (3) 1 OF 0 3								
TITLE (4) Manual Engineered Safety Features Actuation Due to a Toxic Gas Alarm																						
EVENT DATE (5)			LER NUMBER (6)				REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)												
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES				DOCKET NUMBER(S)									
0	4	0	4	9	1	9	1	0	1	0	0	0	5	0	2	9	1	0	5	0	0	0
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)																				
1		20.402(h)				20.405(c)				<input checked="" type="checkbox"/> 50.73(a)(2)(iv)				73.71(b)								
POWER LEVEL (10)		20.405(a)(1)(i)				50.38(c)(1)				50.73(a)(2)(v)				73.71(c)								
0 1 1 3		20.405(a)(1)(ii)				50.38(c)(2)				50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 366A)								
		20.405(a)(1)(iii)				50.73(a)(2)(i)				50.73(a)(2)(vii)(A)												
		20.405(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(vii)(B)												
		20.405(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(ix)												
LICENSEE CONTACT FOR THIS LER (12)																						
NAME Charles Ayala - Supervising Licensing Engineer										TELEPHONE NUMBER 5 1 2 9 7 2 - 8 6 2 8												
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																						
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC													
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR								
YES (If yes, complete EXPECTED SUBMISSION DATE)										<input checked="" type="checkbox"/> NO												

ABSTRACT (Limit to 1400 spaces, i.e. approximately fifteen single space typewritten lines) (16)

On April 4, 1991, Unit 1 was in Mode 1 at 13 percent power. At 0843 hours, the main control room received a toxic gas high concentration alarm. The control room ventilation system was manually placed into the recirculation mode as a conservative response. No toxic gas was determined to be present after an immediate investigation. The alarm occurred as a result of a failure in the Emergency Response Facilities Data Acquisition and Display System computer. The cause of the alarm was a failed fiber optics data acquisition controller subsystem printed circuit board. The failed printed circuit board has been replaced as a result of the event.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1) South Texas, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 9 8 9 1	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		— 0 1 0	— 0 0	0 0	0 2	OF	0 3

TEXT (If more space is required, use additional NRC Form 366A's) (17)

DESCRIPTION OF EVENT:

On April 4, 1991, Unit 1 was in Mode 1 at 13 percent power. At 0843 hours, the main control room (MCR) received a toxic gas high concentration alarm. Operations personnel immediately recognized that automatic actuation of control room ventilation to recirculation mode did not occur and manually repositioned the dampers to the recirculation mode as a conservative measure. An immediate investigation determined that no toxic gases were actually present, and the alarm occurred as a result of a failure in the Emergency Response Facilities Data Acquisition and Display System (ERFDADS) computer. The damper lineup was restored to normal at 0855 hours. At approximately 1300 hours on April 8, 1991, plant personnel determined that this event was reportable as a manual Engineered Safety Features (ESF) actuation to mitigate a presumed event. The NRC was notified of this event at approximately 1600 hours on April 8, 1991.

A toxic gas automatic ESF actuation may be initiated by one of two toxic gas analyzers upon detection of gas concentrations above prescribed limits. While an ESF actuation is driven directly from actuation relays within the analyzers, the MCR alarm is generated by ERFDADS upon recognition of the actuation. Troubleshooting revealed that the cause of the alarm was a failed fiber optics data acquisition controller subsystem (FODACS) printed circuit board. The ERFDADS computer system operates approximately one hundred fifty (150) annunciators. Of these, the high toxic gas ESF actuation alarm is the only priority one (red) annunciator requiring immediate operator action. As such, the operators response to the alarm was an appropriate action.

CAUSE OF EVENT:

The cause of the manual positioning of ESF dampers was the correct response to the alarm. The cause of the alarm was a failed fiber optics data acquisition controller subsystem (FODACS) printed circuit board.

ANALYSIS OF EVENT:

Manual actuation of an Engineered Safety Feature to mitigate the consequences of a presumed event is reportable pursuant to 10CFR50.73(a)(2)(iv). The control room ventilation system was placed into the recirculation mode as a conservative response. No toxic gas was determined to be present and this event did not affect normal operation of the unit.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
South Texas, Unit 1	0 5 0 0 0 4 9 8 9 1	-	0 1 0	-	0 0	0 3	OF 0 3

TEXT (If more space is required, use additional NRC Form 365A's) (17)

ANALYSIS OF EVENT: (cont'd)

While any unnecessary challenge to an Engineered Safety Feature is undesirable, actuation of the control room ventilation system to the recirculation mode represents a minimal hazard since it could not cause, worsen, or prevent mitigation of an accident.

CORRECTIVE ACTIONS:

The failed FODACS printed circuit board was replaced on April 5, 1991.

No additional actions have been determined to be necessary based upon the reliable past performance of ERFDADS and the low FODACS board failure rate. In addition, only one priority one (red) annunciator is driven by ERFDADS, and the operation of control room ventilation dampers does not represent a significant challenge to ESF equipment.

ADDITIONAL INFORMATION:

The fiber optics data acquisition controller subsystem printed circuit board is a MODCOMP, Inc. Model 1819-1.

There have been no previous events regarding an ESF actuation as a result of a failure in the ERFDADS computer. There have also been no manual ESF actuations resulting from the control room alarms.

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